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10/761,667	01/21/2004	Kenneth Dong	26241-013	3419
<div>7590 02/05/2008</div> <div>Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. One Financial Center Boston, MA 02111</div>				
			EXAMINER	
			RASHID, DAVID	
			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/761,667	Applicant(s) DONG ET AL.	
	Examiner David P. Rashid	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5,7-10,12-15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-10,12-15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

#### *Amendments*

1. This office action is responsive to the claim and specification amendment received on December 12, 2007. Claims 1, 3-5, 7-10, 12-15, and 17-19 remain pending; claims 2, 6, 11, 16 cancelled.

#### *Specification*

2. In response to applicant's specification amendments and remarks received on December 12, 2007, the previous specification objections are withdrawn.

#### *Drawings*

3. The following is a quote from 37 CFR 1.84(g):

(g) Margins. The sheets must not contain frames around the sight ( i.e., the usable surface), but should have scan target points ( i.e., cross-hairs) printed on two cater-corner margin corners. Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5 /8 inch), and a bottom margin of at least 1.0 cm. (3 /8 inch), thereby leaving a sight no greater than 17.0 cm. by 26.2 cm. on 21.0 cm. by 29.7 cm. (DIN size A4) drawing sheets, and a sight no greater than 17.6 cm. by 24.4 cm. (6 15 /16 by 9 5 /8 inches) on 21.6 cm. by 27.9 cm. (8 1 /2 by 11 inch) drawing sheets.

4. FIG. 3 and FIG. 4 are objected to under 37 CFR 1.84(g) for failing to place the drawings within the margins required (specifically allowing an inch of the top margin).

5. The following is a quote from 37 CFR 1.84(t):

(t) *Numbering of sheets of drawings.* The sheets of drawings should be numbered in consecutive Arabic numerals, starting with 1, within the sight as defined in paragraph (g) of this section. These numbers, if present, must be placed in the middle of the top of the sheet, but not in the margin. The numbers can be placed on the right-hand side if the drawing extends too close to the middle of the top edge of the usable surface. The drawing sheet numbering must be clear and larger than the numbers used as reference characters to avoid confusion. The number of each sheet should be shown by two Arabic numerals placed on either side of an oblique line, with the first being the sheet number and the second being the total number of sheets of drawings, with no other marking.

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6. The drawings are objected to under 37 CFR 1.84(t) for failing to place page numbers and other information (if using them) in "the middle of the top of the sheet, but not in the margin....The drawing sheet numbering must be clear and larger than the numbers used as reference characters to avoid confusion."

7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

8. In response to applicant's claim objections amendments and remarks received on December 12, 2007, the previous claim objections are withdrawn.

#### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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10. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 depends from cancelled claim 11, and it is now unclear which claim it is depending from, and cannot further be examined at this point in time.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1, 4-5, 7-10, 13-15, and 17-20** are rejected under 35 U.S.C. 102(b) as being anticipated by Kado et al. (US 5,995,639 A).

Regarding **claim 1**, Kado discloses a method of processing an image of a face, the method comprising (FIG. 1; FIG. 14; FIG. 11 with “Brightness Correction”, Col. 7, lines 23 - 52) the steps of:  
receiving a two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11); and  
combining the two dimensional facial image and a standard three dimensional facial image (FIG. 14, element 14; “Standard structure model” in FIG. 11) to create a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14);

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adjusting a pose of the three dimensional facial image (FIG. 14, element 19 wherein the changing of the “pose” is brightness correction as detailed in Col. 7, lines 23 - 52); and

rendering a two dimensional image (“Adjusted structure model” in FIG. 11 after brightness correction step 19 in FIG. 14 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing the “Adjusted structure model” in FIG. 11 after brightness correction step 19 is also two dimensional) from the adjusted three-dimensional image.

Regarding **claim 4**, Kado discloses the method of claim 1, wherein the combining step includes the steps of:

combining the two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11) and standard three dimensional facial image (FIG. 14, element 14; “Standard structure model” in FIG. 11) to create a first intermediate three dimensional facial image (FIG. 14, element 15; Col. 3, lines 48 - 54);

rendering a first intermediate two dimensional facial image (“S. M. Adjust” in FIG. 14, element 15 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing element 15 is also two dimensional) based upon the first intermediate three dimensional facial image;

comparing (FIG. 14, element 16; “Feature amount extraction” in FIG. 11; Col. 3, line 66 – Col. 4, line 7) the first intermediate two dimensional facial image to the two dimensional facial image; and

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modifying ( "Adjusted structure mode" in FIG. 11 INCLUDING brightness correction step 19 in FIG. 14) the first intermediate three dimensional facial image based upon results of the comparison step.

Regarding **claim 5**, Kado discloses the method of claim 4, wherein the combining step further includes the step of repeating the rendering, comparing, and modifying steps a plurality of times (If not already inherent, it is implicit that the complete algorithm for identifying a person as taught by Kado will be performed more than once on microcomputer 3, thus the combining step within the complete algorithm will repeat the rendering, comparing, and modifying steps a plurality of times.).

Regarding **claim 7**, Kado discloses the method of claim 4, further comprising the steps of: rendering a final two dimensional image from the three dimensional facial image according to a selected lighting (brightness correction as detailed in Col. 7, lines 23 - 52).

Regarding **claim 8**, Kado discloses a facial identification method (FIG. 1; FIG. 14; FIG. 11 with "Brightness Correction", Col. 7, lines 23 - 52) comprising the steps of:

receiving a two dimensional facial image (FIG. 14, element 2; "Input image" in FIG. 11);

creating a three dimensional facial image (FIG. 14, element 16; "Adjusted structure mode" in FIG. 11 before brightness correction step 19 in FIG. 14) from the two dimensional facial image;

adjusting a pose of the three dimensional facial image (FIG. 14, element 19 wherein the changing of the "pose" is brightness correction as detailed in Col. 7, lines 23 - 52);

rendering an adjusted two dimensional facial image ("Adjusted structure model" in FIG. 11 after brightness correction step 19 in FIG. 14 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing the "Adjusted structure model" in FIG.

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11 after brightness correction step 19 is also two dimensional) from the adjusted three dimensional facial image; and

comparing the rendered two dimensional facial image to at least one stored two dimensional facial image to determine a match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

Regarding **claim 9**, Kado discloses the facial identification method of claim 8, wherein the comparing step includes:

comparing the rendered two dimensional image (the “Adjusted structure model” in FIG. 11 is a two dimensional facial image when displayed on the two dimensional display 5) to a plurality of stored two dimensional facial images to determine a closest match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

Regarding **claim 10**, Kado discloses the facial identification method of claim 8, wherein the step of creating a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14) includes the step of combining the two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11) and a standard three dimensional facial image (FIG. 14, element 14; “Standard structure model” in FIG. 11) to create a three dimensional facial image.

Regarding **claim 13**, Kado discloses a system for an identifying an individual (FIG. 1; FIG. 14; FIG. 11 with “Brightness Correction”, Col. 7, lines 23 - 52) comprising:

a camera (FIG. 1, elements 1, 2) for acquiring a two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11);



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means for creating a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14) from the two dimensional facial image;

means for adjusting a pose of the three dimensional facial image (FIG. 14, element 19);

means for rendering a final two dimensional image (“Adjusted structure model” in FIG. 11 after brightness correction step 19 in FIG. 14 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing the “Adjusted structure model” in FIG. 11 after brightness correction step 19 is also two dimensional) from the adjusted three dimensional image; and

means for comparing the final two dimensional image to at least one stored two dimensional image to determine a match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 14**, Kado discloses the system for identifying an individual according to claim 13, further comprising:

a database of stored two dimensional images (FIG. 14, element 17); and

wherein the means for comparing includes means for comparing the final two dimensional image to at least one stored two dimensional image in the database of stored two dimensional images (FIG. 14, elements 17, “Results”).

Regarding **claim 15**, Kado discloses the system for identifying an individual according to claim 14, wherein the means for comparing includes means for comparing the final two dimensional

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image to a plurality of stored two dimensional images in the database to determine a closest match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 17**, claim 7 recites identical features as in claim 17. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 17.

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 18**, claim 4 recites identical features as in claim 18. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claim 18.

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 19**, Kado discloses a system (FIG. 1; FIG. 14; FIG. 11 with “Brightness Correction”, Col. 7, lines 23 - 52) for creating a three dimensional facial image (FIG. 14, element 18; “Adjusted structure mode” in FIG. 11 after brightness correction step 19 in FIG. 14) from a two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11) comprising:

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a memory (FIG. 1, elements 3, 4) storing a standard three dimensional facial image (FIG. 14, element 14; “Standard structure model” in FIG. 11);

means for adjusting a pose of the standard three-dimensional facial image (FIG. 14, element 19 wherein the changing of the “pose” is brightness correction as detailed in Col. 7, lines 23 – 52; it can also be argued that the pose of the standard three-dimensional facial image is also adjusted from element 14 to element 15 of fig. 14 to “perform[[s]] deformation and adjustment of the standard structure model” in 6:27-28; see argument below for pose adjustment); and

means for combining (FIG. 14) the two-dimensional facial image and the adjusted standard three dimensional facial image to create the three dimensional facial image (FIG. 14, element 18; “Adjusted structure mode” in FIG. 11 after brightness correction step 19 in FIG. 14).

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 20**, claim 4 recites identical features as in claim 20. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claim 20.

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 3 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kado et al. (US 5,995,639 A) in view of Toyama et al. (US 2002/0013684 A1).

Regarding **claim 3**, while Kado discloses the method of claim 1, Kado does not teach wherein the standard three dimensional facial image is generated by receiving a plurality of three dimensional facial images and combining the plurality of three dimensional facial images to generate the standard three dimensional facial image.

Toyama discloses a method for modifying a standard model (FIG. 1; FIG. 11) wherein the standard three dimensional facial image (FIG. 11, elements 37, 38) is generated by receiving a plurality of three dimensional facial images and combining the plurality of three dimensional facial images to generate the standard three dimensional facial image (FIG. 11, elements 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the step of creating a standard three dimensional facial image of Kado to be generated by receiving a plurality of three dimensional facial images and combining the plurality of three dimensional facial images to generate the standard three dimensional facial image as taught by Toyama "...to provide a method for generating a shape model that enables to have a part of a three-dimensional model such as a corner of an eye or a corner of an eye or a corner of a mouth conformed to that of an object without topical improper modification.", Toyama, paragraph [0016].

Regarding **claim 12**, claim 3 recites identical features as in claim 12. Thus, references/arguments equivalent to those presented above for claim 3 are equally applicable to claim 12.

*Response to Arguments*

11. Applicant's arguments filed on December 12, 2007 with respect to **claim 8** have been respectfully and fully considered, but they are not found persuasive.

12. **Summary of Remarks** regarding **claim 8**:

Applicant argues that the Examiner believes that Kado's brightness correction is the same as pose adjustment and the Applicant disagrees. Applicant argues performing brightness correction on an image is different from pose adjustment. Claim 8 requires adjusting a pose of a three dimensional image. Adjustment of pose is a geometrical transformation, which requires performing a rigid rotation on a three dimensional image. The Examiner states that performing a brightness correction is the same as adjusting the pose, and draws attention to a passage in Kado that describes brightness correction. But pose adjustment is different from brightness correction for at least the following reasons. Pose adjustment involves applying a geometrical transformation to the model, such as a rotation. This rotation determines the appearance of a projection of the three-dimensional image into any particular two-dimensional image plane. For example, pose adjustment causes different portions of the three dimensional image to appear in any given two-dimensional projection, and it changes the shape of projected features in the image. Such effects are absent in Kado's brightness correction process because there is no change in the geometrical relationship between Kado's fixed three dimensional model and his two dimensional image. In contrast to pose adjustment, Kado's brightness correction method uses a fixed facial model, i.e., a model that is fixed in relation to the image plane. The method determines the position of the light source in a captured image from the brightness of patches of the facial model. It then determines the brightness of the model patches for a light source placed in a standard position with respect to the face. This process enables Kado to simulate illumination from a

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light source that is located in a standard position with respect to the model. (Applicant Resp. 8-9, December 12, 2007.)

The illumination is corrected by adjusting the brightness of patches in the model based on the angle of patch's surface normal. This correction involves no changes in the surface normals of Kado's face model patches, i.e., no rotation or any other geometrical adjustment of his three dimensional model is performed. Thus there is nothing in Kado that even hints at adjustment of pose, as required by the claim. (Resp. 9.)

**13. Examiner's Response regarding claim 8:**

However, adjustment of a pose is not limited to a geometric transformation, which would require performing a rigid rotation on a three dimensional image. The noun "pose" is defined as "an attitude, role, or characteristic assumed for effect". See Merrian-Webster Online, 2007-2008, "pose" n. def. 2, available at <http://www.m-w.com/dictionary>. Adjusting pose (i.e. "pose adjustment") is modification from one pose to another "to bring to a more satisfactory state" or "to adapt or conform". See Merrian-Webster Online, "adjust", trans. v. def. 1a, intrans. v. 1. Changing the state of brightness from one image to the other on a still-image of a three-dimensional face is in fact "pose adjustment" by definition, as no geometric transformation is mentioned nor required. If the more satisfactory state is to change the brightness "to prevent misjudgment due to a difference in the position of the light source in photographing" (Kado, 7:24-26), then the change itself is defined as an "adjustment". The pose of the three-dimensional image is that of the brightness effect/reflection upon it, as the brightness effect from the three-dimensional face is a "characteristic assumed for effect." This specific pose of the face is in fact adjusted to another pose for which the brightness effect/reflection from the three-

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dimensional face has changed (i.e. being another "characteristic assumed for effect" with the new brightness correction).

In view of the definitions and explanation given above, Kado discloses "pose adjustment" when performing "brightness correction". By definition, pose adjustment is broad enough to not have to encompass any sort of actual "geometric transformation" which would require performing a rigid rotation of the three dimensional image. The Examiner advises the Applicant to amend the claim in such a way to limit pose adjustment to incorporate the Applicant's argument.

In light of the Examiner's argument, the process of pose adjustment also occurs from element 14 to element 15 of fig. 14 to "perform[[s]] deformation and adjustment of the standard structure model" in 6:27-28, which does anticipate claim 19 as an alternative system.

### *Conclusion*

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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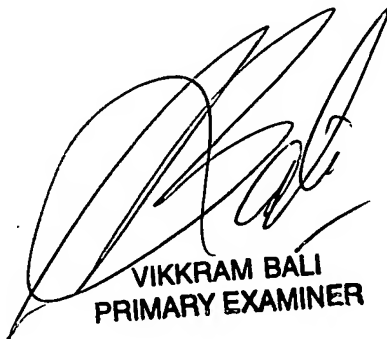
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/  
Examiner, Art Unit 2624

David P Rashid  
Examiner  
Art Unit 2624



VIKKRAM BALI  
PRIMARY EXAMINER